

I was staying in a somewhat crowded and antiquated part of the town, where the holes in the ancient walls provided excellent nesting sites for Mynas—Common, Bank and Brahminy—besides numerous Rose-ringed Paroquets. Close to my window was an electric wire post and on this the sundry occupants of the holes were to be seen at all hours of the day.

On the present occasion a pair of paroquets were sitting on the cable close to one another paying delicate attentions in the way of tickling each others heads and so on. In a little while the male sidled up closer to the female who responded by squatting herself flat, neck extended in front, flattening her back by slightly opening and raising her wings. The cock-bird now complacently climbed on to the hen's back with the help of his beak and there commenced a series of some extremely odd proceedings, difficult to describe. At first he kept to the left side of the females back only and commenced jerking his head up and down so that at each downward stroke of the head the culmen of his beak rubbed against the left side of the hen's head. After twenty jerks or so in this manner, he stepped over to the right half of the female's back and the jerking of the head was repeated, this time the culmen stroking the right side of her head. In the course of these proceedings the female frequently turned her head round and touched the cock's beak with hers.

This performance continued for fully five minutes. The cock now shifted himself to the centre of his spouse's back and with his wings open and drooping low on either side of her, tilted himself backward and the act was accomplished.

During the half hour I was watching the pair, copulation took place thrice, the birds moving off a little distance after each act, and sidling up again after a while. The last two 'transactions' occupied a much shorter time than the first.

It would appear that early morning is the time selected by the birds for this phase of their nesting operations, as though they kept to the neighbourhood throughout the day, no more of the business was noticed.

BOMBAY NATURAL HISTORY SOCIETY,
6, APOLLO STREET,
March 1, 1927.

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XII.—HABITS OF THE INDIAN SPUR-WINGED PLOVER (*HOPLOPTERUS VENTRALIS*)

1. *Protective devices.*—The Indian Spur-winged Plover haunts the sands in river beds. It has the plover-like habit of making forward rushes, then short halts during which it often stands on one leg.

It makes remarkable use of its protective colouring and behaves as if it understood the advantage of its dress. The following are the parts of its colouration which concern us. Its back is sandy brown, under parts white, crown black with a long crest throat with a black patch, wings largely black and white. The black and white of the wings would be very conspicuous were it not that when folded these colours are hidden by the inner coverts which are coloured light brown.

A bird clothed in this striking dress is certainly very obvious when in flight. It is equally conspicuous against a dark background or when standing on green grass. But the spur-wing keeps mainly to river beds, and so conducts itself in the face of danger that its colours blend remarkably with the sand. At the edge of the water it is conspicuous enough, for the sand is there wet and dark owing to the moisture sucked into it from the stream. And the spur-wing seems to know that the edge is dangerous, for, on my approach, it runs inward to the drier area where its light brown plumage blends with the paler sand.

Let us approach closer and watch how the bird behaves. It reaches the paler tract of sand, then halts, bends its legs, dips its head, depresses its crest, and lowers its body close to the ground. Its gait, if it moves, is very stealthy, and it is obviously trying to make itself look small. Sometimes it crouches very low and flattens its body down on the sand. Perhaps it may find a small hollow in which it can conceal itself completely from view. Thus the spur-wing seems to know that it must make itself inconspicuous, that its safety is secured by blending with the sand.

Other plovers adopt this ruse. The Little Ringed Plover, *Ægialitis dubia*, for instance, sometimes crouches in a similar way. It likes sandy places and is protectively coloured. Hence crouching conceals it in the same way as it does the spur-wing.

But the spur-wing shows other points of interest. If we try to make a circle round the crouching bird we will notice that it stubbornly refuses to face us. It will not show its breast. If it runs to another spot it may turn its tail to us, but its main object is to present to us a flank. As we circle round the bird turns also, with the result that we can get only a side view. If something forces it to turn the opposite way and make it present its head towards us, then it makes the movement sharply and rapidly, and we see it head-onwards only for an instant. Clearly the spur-wing will not face us, but compels us to look on its flank. The reason is that the bird is trying to conceal its most conspicuous part. Its black throat and white breast would be visible on the sand miles away. Its side view is a perfect blend. By the way in which it crouches and dips its head it manages to conceal its neck and throat partially, but it cannot hide them altogether. Hence the determination to show only a flank.

The Red-wattled Lapwing makes some attempt towards this same flanking ruse, like the spur-wing, its breast is the most conspicuous part. Its upper surface is dark brown which blends fairly well with the ploughed fields which this plover is accustomed to haunt. But if it is disturbed by someone approaching, it usually turns so as to present a flank. And if the observer makes a circle round it, the lapwing will repeatedly adjust its position so as to show only a flank.

Another point about the spur-wing's behaviour is this. While it is in the crouching attitude we notice that from time to time it gives its head a quick jerk. The act is momentary. Only for an instant is the head elevated, then it is immediately drawn down. This behaviour is linked with the protective attitude. For when the bird is crouching with head lowered so as to conceal the breast then its range of vision is much reduced. It must, however, watch the intruder. If it stands erect it makes itself conspicuous, and its main object is to avoid this. So it jerks up the head, takes a momentary glimpse at the intruder, then pulls the head down again. By so doing it makes the shortest possible exposure, and gets back to the protective attitude once more.

Thus we see that the spur-wing behaves as if it understood its protective disguise. The way it runs to the pale sand, the stealthy gait, the crouching attitude, the manner in which it persists in exposing a flank, the momentary glimpse that it takes with its head: all these are particular points of behaviour made to fit in with the colour scheme.

2. *Display*.—The spur-wing indulges in an interesting display which, had it occurred at another season, I would have associated with the sexual act. I observed it at the end of September. The swollen river had then shrunk leaving large patches of sand exposed. Spur-wings were accustomed to collect on these flats, sometimes in small flocks. Certain of these flats seemed specially attractive. One morning I saw a flock of spur-wings at one of these chosen spots. An unusual commotion was going on. Four of the birds stood apart from the rest. Three of them were making conspicuous display while the fourth seemed quite uninterested. They stood erect after the fashion of penguins, with heads thrust high in the air, breasts and white under parts ostentatiously exposed, especially the conspicuous transverse bands. In this peculiar attitude straight as a man upon his legs, they strutted about with an aspect of pride. Their affected gait was very amusing, the slow, measured, unnatural paces; they looked as if showing themselves to best advantage at a kind of elaborate parade. Sometimes one would make a quick run; the other two would immediately follow; then the three would halt and start their strutting competition once more. At intervals they made bowing movements with their heads so as to hide momentarily the conspicuous breasts; at other times they would spin themselves round in circles, making half a dozen or more turns. These evolutions were accompanied with clamour. The birds chattered continuously. It seemed as if a music competition was added to that of show. The fourth bird appeared to take no interest in the proceedings. It stood upon the sand a little distance away, balanced on one leg. Perhaps this uninterested spectator was the female; but why should an ostentatious sexual display take place at this season of the year!

R. W. G. HINGSTON.

XXIII.—COMMENTS ON MR. J. K. STANFORD'S 'OCCURRENCE OF THE SHELDRAKE AND LAPWING IN UPPER BURMA'

Reference Mr. J. K. Stanford's note on the occurrence of the Lapwing in Upper Burma, published on page 823 of vol. xxxi, No. 3.